



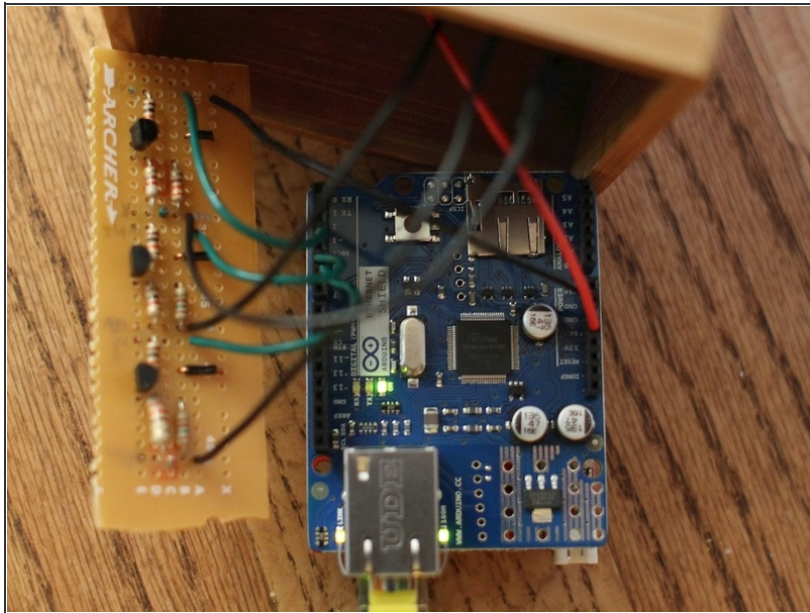
# Cheerlights Desktop Christmas Tree

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## SUMMARY

This tree is nothing more than 10 RGB (red/green/blue) LEDs connected in parallel to an Arduino with an Ethernet Shield running a modified version of the cheerlights sketch.

## Step 1 — Cheerlights Desktop Christmas Tree



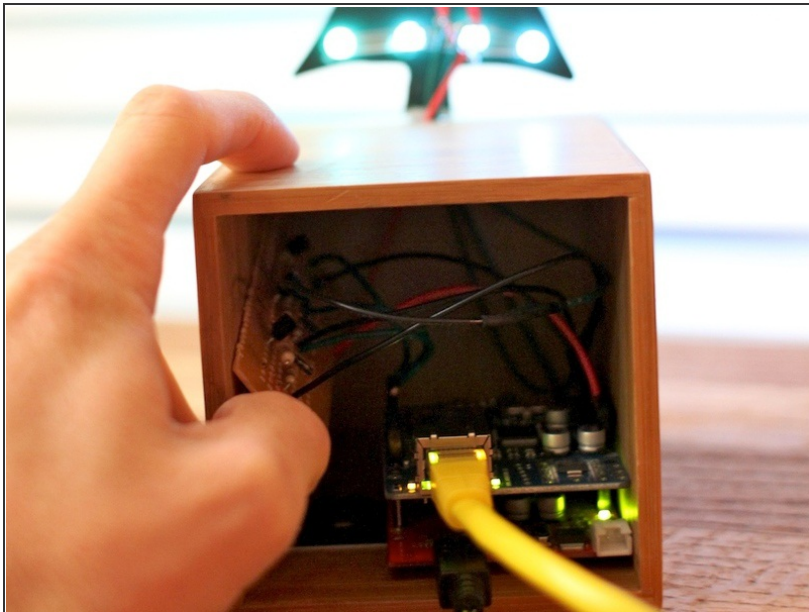
- While I was waiting for my shipment of RGB LEDs to arrive, I went ahead and did a test run with the Arduino and a single LED. Then, wanting to make sure I didn't overload the Arduino's outputs, I whipped up a little board with NPN transistors to take the load off. Turns out I probably didn't need it, but left it in anyway. Astute readers will notice that I have 3 extra resistors. Turns out that the LED with which I did my original testing (acquired at Radio Shack) needed different resistor values than the twenty I got from Sparkfun.
- Good instructions for connecting an RGB LED to an Arduino can be found at <http://www.instructables.com/id/RGB-LED-...>
- I downloaded the code from <https://github.com/iobridge/CheerLights/...> and replaced the GE Color Effects code bits with code from the aforementioned Instructables article to drive RGB LEDs. I had to invert the color values (replace 255 with 0 and vice versa) to reflect the wiring.
- My final code can be found at <https://github.com/BabyWrassler/Desktop-...>

## Step 2



- After testing the LEDs on the breadboard, I soldered 'em up into a tree. I thought this would be the hardest part, but it wasn't so tricky.

## Step 3



- With the tree mounted to the box (a bamboo kitchen utensil holder), I connected the Arduino setup.

## Step 4



- Dialing in each color is what actually took the longest, staring into bright lights and trying to conjure a perfect white.

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